

CLAIMS

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1. A device (1, 8, 13, 22) for holding together, adjusting, fitting or fastening parts of a garment, 5 shoe, or any other accessory, wherein a first part (2) containing at least one first sheath (3, 9, 15, 16, 24) in which at least one first magnet or ferromagnetic element (4, 11, 17, 24) is inserted, these being movable inside the said first sheath, and a second part (5) 10 containing at least one second magnet or ferromagnetic element (6, 12, 18, 30) subject or submitted to the magnetic attraction of the first magnet or ferromagnetic element of the first part, are used to hold together, adjust, fit or fasten the garment, shoe or accessory 15 when one of the first and second parts (2, 5) is activated by a user to work in conjunction with the other part, a multitude of adjustments or alterations being possible through the sliding of the first magnet or ferromagnetic element in the said first sheath.

20 2. A device as claimed in claim 1, wherein the second magnet or ferromagnetic element (12) is itself included and movable in a second sheath belonging to the second part.



3. A device as claimed in claim 1, wherein the second magnet or ferromagnetic element (6, 18, 30) is attached to the second part.

4. A device as claimed in any preceding claim,
5 wherein the first part and/or second part (14, 22, 23) have two sheathes.

5. A device as claimed in any preceding claim, wherein one of the first and second parts is at least in part formed by a strap (333, 334, 330) or braces (261).

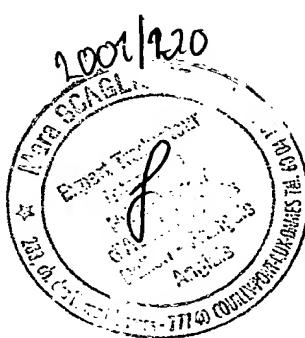
10 6. A device as claimed in claim 5, wherein at least one of the first and second magnets or ferromagnetic elements is formed by a magnetised or ferromagnetic area on the said braces or strap belonging to the first or second corresponding part.

15 7. A device as claimed in any preceding claim, wherein one or more magnets or ferromagnetic elements (34) of a part of the device, are concave in shape, and the magnet(s) or ferromagnetic element(s) (35) of the other part is(are) convex in shape and complementary to the said concave shape.

20 8. A device as claimed in any preceding claim, wherein one or more magnets or ferromagnetic elements

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(4, 6, 11, 12, 17, 18, 25, 30) are flat, trapezoid, rectangular, circular or triangular in shape.

9. A device as claimed in claim 8, wherein at least one magnet or ferromagnetic element (35, 41) of one part 5 is cylindrical.

10. A device as claimed in claim 9, wherein the corresponding magnet or ferromagnetic element of the other part is flat.

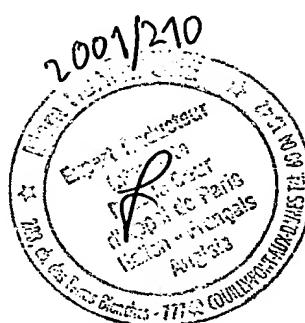
11. A device as claimed in claim 9, wherein the 10 corresponding magnet or ferromagnetic element (48, 52) of the other part is cylindrical.

12. A device as claimed in any preceding claim, wherein it contains the means (55) for mechanically moving the sheath(es).

15 13. A device as claimed in any preceding claim, wherein at least one of the first and second parts has a series (67) of at least two magnets or ferromagnetic elements (68, 69) hinged together.

14. A device as claimed in any preceding claim, 20 wherein at least one of the magnets (70, 71) is surface-polarised.

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15. A device as claimed in any preceding claim, wherein the polarisation of at least one of the magnets is axial (78), parallel to the sheath.

16. A device as claimed in any preceding claim,
5 wherein at least one of the magnets (72, 73, 79, 80, 81, 82, 83) is multipolar.

17. A device as claimed in any preceding claim, wherein it contains at least two magnets (80, 81, 82, 83) in the same sheath, of opposite polarisation.

10 18. A device as claimed in any preceding claim, wherein each magnet (85) is associated with an anti-magnetic protection component (86, 77, 91, 105).

19. A device as claimed in any preceding claim, wherein at least one magnet being multipolar, it is sandwiched between two parts (91) used to block the magnetic flux.
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20. A device as claimed in any preceding claim, wherein the magnet being of width d, the structural thickness of the device between the magnet and 20 ferromagnetic element is less than $d/12$.

21. A device as claimed in any preceding claim, wherein at least one magnet or ferromagnetic element is glued, welded or embedded on a support plate (93, 96, 104).



22. A device as claimed in any preceding claim, wherein the sheath also has a strip of ferromagnetic cloth (108) along all or part of its length.

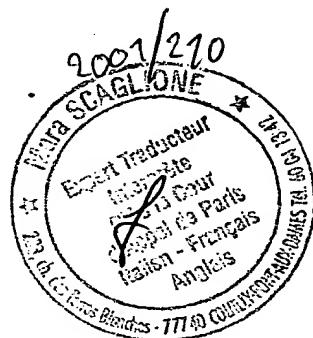
23. A device as claimed in any preceding claim,
5 wherein the sheath also has stitches sewn with ferromagnetic conductor wire (112) along at least part of its length.

24. A device as claimed in any preceding claim,
10 wherein the magnets or ferromagnetic elements (114) have rounded edges (115).

25. A device as claimed in any preceding claim, wherein the magnets are produced from the family of rare earths of the type Neodymium Iron Boron.

26. A device as claimed in any preceding claim,
15 wherein it contains the means (120, 137, 308, 331, 362) to activate the movable magnet(s) or ferromagnetic element(s) remotely.

27. A device as claimed in claim 26, wherein the means for remote activation contain the means for
20 motorisation of at least one of the movable magnets or ferromagnetic parts, allowing the mechanical movement of the corresponding sheath(es).



28. A device as claimed in claim 27, wherein it contains (the means for motorisation of at least one first and at least one second magnet or ferromagnetic element) capable of working in conjunction with the first one.)

29. A device as claimed in claim 28, wherein the means for remote activation include a microprocessor, used for automatic adjustment so that the item can be adapted during use, by limiting tightening, and thus ensuring optimum adjustment.

30. A device as claimed in claim 29, wherein the means for remote activation also include the means for storing different adjustments, corresponding to different users or situations.

31. A device as claimed in any of the preceding claims 26 to 30, wherein the means for remote activation include a photoelectric sensor (144), and/or a temperature sensor, and/or a humidity sensor.

32. A device as claimed in any of the preceding claims 26 to 31, wherein the means for remote activation include an elastic or spring-operated traction system (161, 164; 160, 162) using attached or connected to the movable magnet or ferromagnetic element, and capable of acting through the corresponding sheath, and a system

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for locking the said traction system in one or more preset positions.

33. A device as claimed in claim 32, wherein the traction system is attached to the sheath, or passes 5 through the said sheath.

34. A device as claimed in any preceding claim, wherein at least one magnet (210) is formed from a block drilled along its axis with at least one cylindrical hole (211) and containing, on the side of one of its 10 surfaces, a transverse channel (212) parallel to the said surface and through which sewing thread can be run entirely below the said surface.

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95* 15 35. A device as claimed in any preceding claim, wherein at least one magnet is formed from a block drilled along its axis with at least one cylindrical hole and containing, on the side of one of its surfaces, a cupel (222) through which sewing thread can be run entirely below the said surface.

36. A device as claimed in any of the claims 34 to 20 35, wherein the magnet has two cylindrical holes (212, 212').

37. A device as claimed in any of the claims 34 to 36, wherein the magnet(s) are covered with an anti-magnetic sheath on at least one surface.



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38. A device as claimed in any preceding claim, wherein it also contains the means (234, 235, 236) for detecting and signalling that the parts of the garment, shoe or any other accessory are correctly fastened or fitted.

39. A device as claimed in claim 38, wherein the detection and signalling system contains a circuit of conductor wires connected to the magnets or ferromagnetic elements, the said magnets or 10 ferromagnetic elements acting as contactors to close the circuit.

40. A device as claimed in any of the claims 38 and 39, wherein it also contains the means for triggering an alarm or sending a command if specific preset conditions are complied or not complied with.

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41. A device for a shoe as claimed in any of the preceding claims dependent on claim 27, wherein the means for remote activation include a switch located in the sole of the shoe, which can be activated by the user 20 when he puts his foot in the shoe, this allowing automatic adjustment of the shoe.

42. A device for adjusting the hem of a garment, as claimed in any of the claims 1 to 40, wherein the sheath is extended by a piece of fabric to which the second 25 magnet or ferromagnetic element is attached.

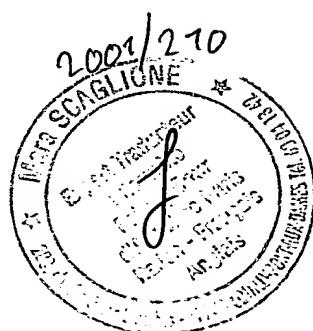


43. A device as claimed in claim 42, wherein it is weighted inside the hem.

44. A shoe, containing a device as claimed in any of the claims 1 to 41.

5. 45. A shoe as claimed in claim 44, wherein it is comprised of three solid sections, namely a right section (332), a left section (331) and a central section (333), and two open sections, each one separating the two solid sections on either side of it, 10 the device containing at least one strap (334) fixed to the middle on the central section and fitted on both sides with sheathes (326) containing movable magnets (325), used to bring the right and left sections towards the central section, in order to, adjust tightening of 15 the shoe.

46. A shoe as claimed in claim 45, dependent on claim 27, wherein the device has at least one adjustment strap (330) containing a magnet or ferromagnetic part which disappears into the wall of the shoe, the motorisation system being capable of pulling or releasing the said strap automatically.



47. A garment, containing a device as claimed in any of the claims 1 to 40, 42 and 43.

48. A garment as claimed in claim 47, dependent on claims 38 to 40, wherein it contains a cloth, the weft (401) of which is threaded with conductor wire connected to an alarm used to signal if the wire is cut and therefore that the garment is damaged.

49. An accessory such as braces or belts, bags, organisers and other types of leather goods, wherein it 10 contains a device as claimed in any of the claims 1 to 48.

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